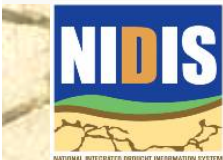
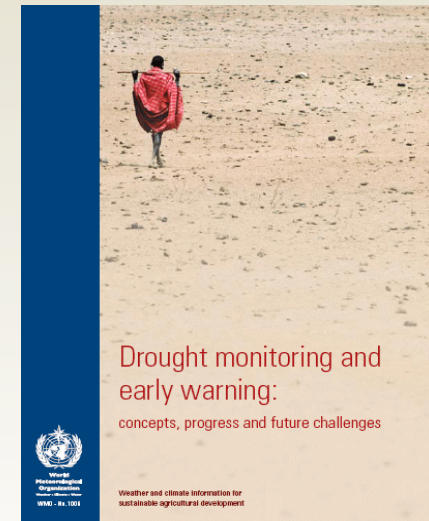
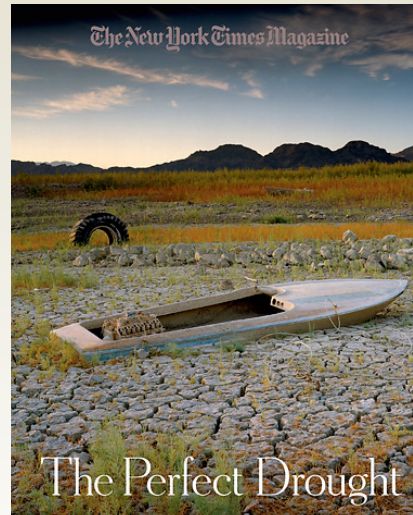
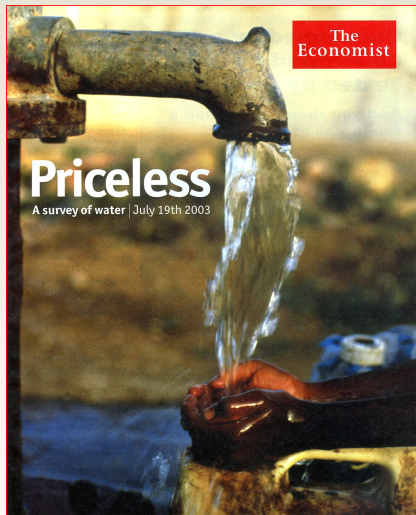


# National Integrated Drought Information System

Joint Fed/State Preplanning Meeting

NIDIS Pilot Drought Early Warning Information System in California



# National Integrated Drought Information System

“Drought is the most obstinate and pernicious of the dramatic events that Nature conjures up. It can last longer and extend across larger areas than hurricanes, tornadoes, floods and earth quakes...causing hundreds of millions of dollars in losses, and dashing hopes and dreams.”

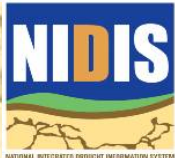
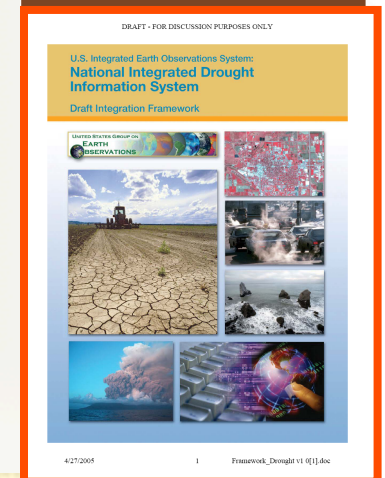
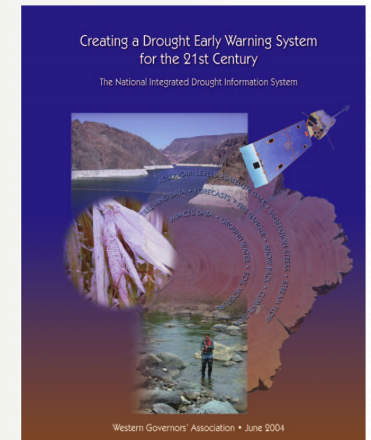
US National Drought Policy Commission Report, May 2000

Public Law 109-430 (The NIDIS Act 2006)

“Enable the Nation to move from a reactive to a more proactive approach to managing drought risks and impacts”

“better informed and more timely drought-related decisions leading to reduced impacts and costs”

[www.drought.gov](http://www.drought.gov)





# Federal Drought Enterprise

## Monitoring & Forecasting



## Drought and Flood Impacts Assessments and Scenarios



## NIDIS-Information Services in support of Adaptation

## Communication and Outreach

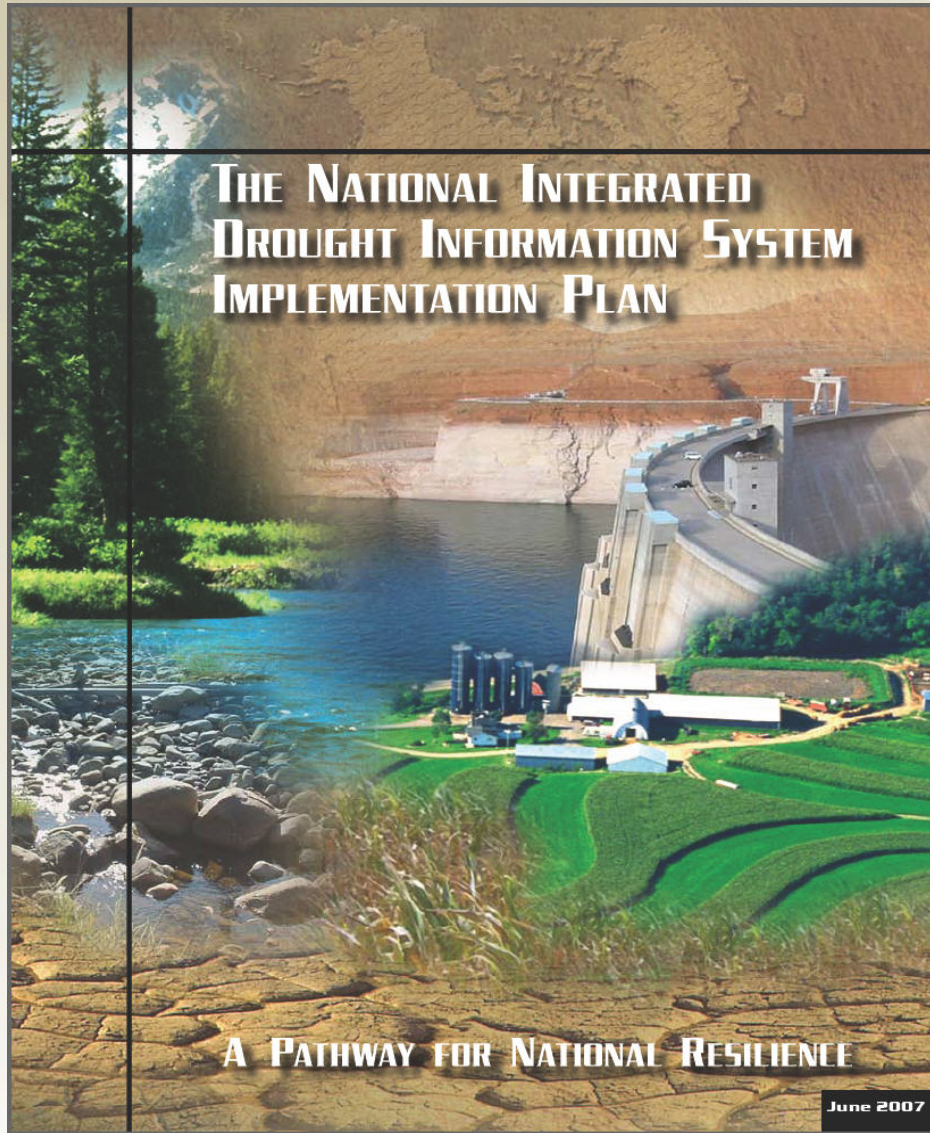


## Engaging Preparedness & Adaptation





# NIDIS Objectives

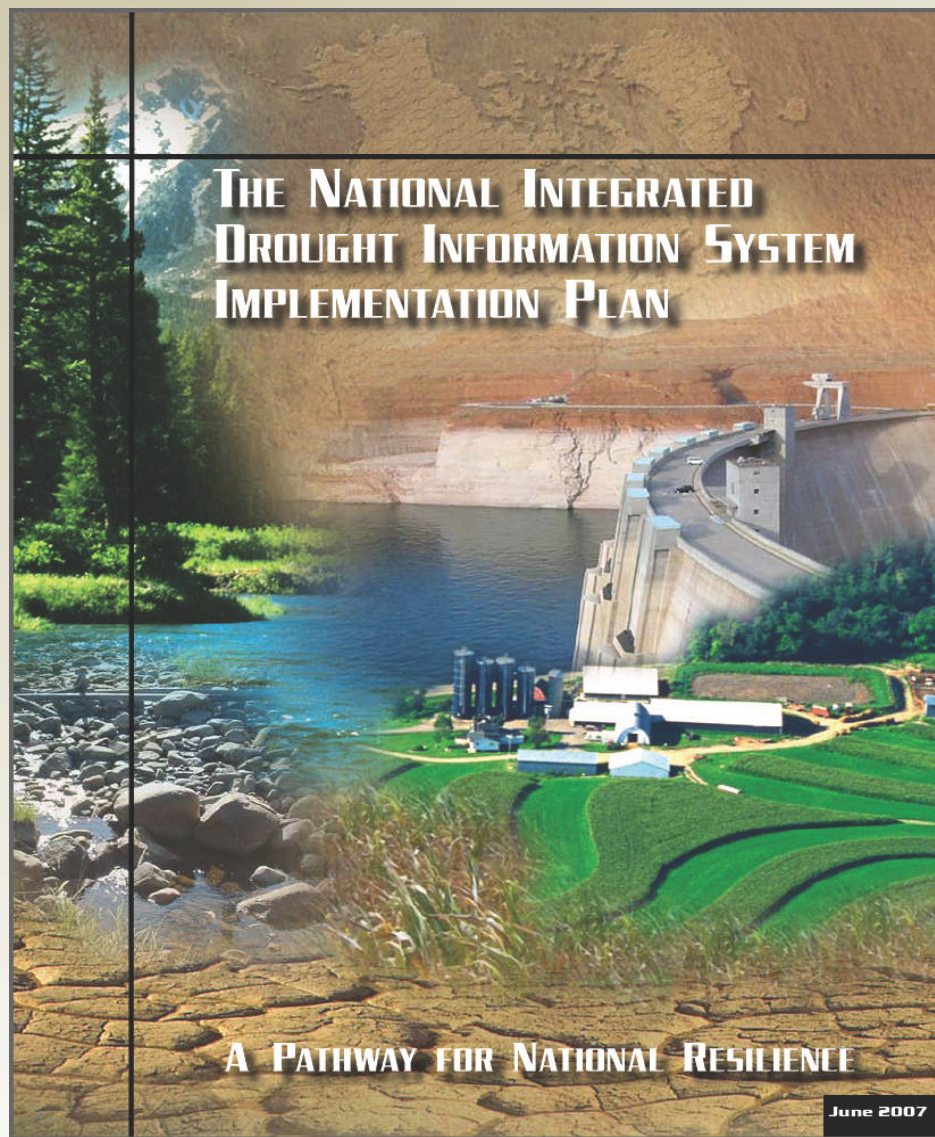


Creating a drought early warning information system

- Coordinating national drought monitoring and forecasting systems
- Providing an interactive drought information clearinghouse and delivery system for products and services—including an internet portal and standardized products (databases, forecasts, Geographic Information Systems (GIS), maps, etc)
- Designing mechanisms for improving and incorporating information to support coordinated preparedness and planning



# NIDIS Components



1. NIDIS Office (PSD/CPO..)
2. U.S. Drought Portal  
(NCDC, NDMC, RCCs..)
3. Climate Test Beds/Drought
  - ✧ Integrating data and forecasts (CPC..)
4. Coping with Drought
  - ✧ Applications and Decision support Research (RISAs, SARP, TRACS..)
5. NIDIS Early Warning Information Systems
  - ✧ Design, Prototyping, Implementation  
(multi-agency, multi-state)

# NIDIS: What it is and isn't

- **NIDIS isn't.....**

- a regulatory program and doesn't establish minimum flow requirements
- a decision maker that tells you how to plan for drought
  - Will not dictate indicators and triggers that should be used
- a mediator between conflicting interests
- a mechanism for declaring drought

- **NIDIS is charged with.....**

- providing better coordination for existing national drought monitoring and forecasting systems
  - Also, informs how to improve these systems
- providing data, products, and processes that inform existing planning and preparedness efforts
- providing an interactive drought information clearinghouse and delivery system for products and services



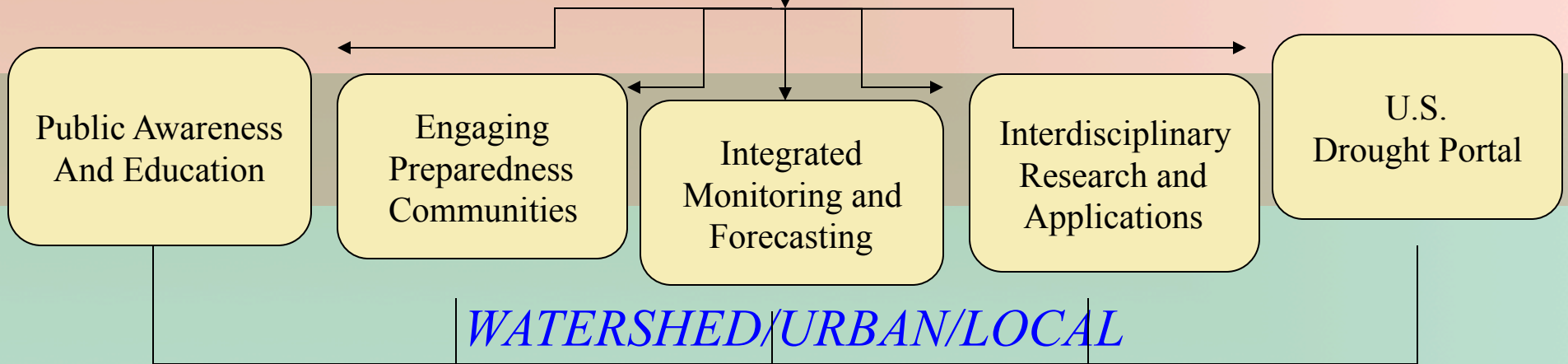
NIDIS Governance: Executive Council

NIDIS Program Office

NIDIS Implementation Team: Over 50 Federal,  
state, tribal and private sector representatives

*NATIONAL*

## Pilot Drought Early Warning Information System (similar organizational components)



Regional Drought Early Warning Systems  
Information clearinghouse, prototypes, and Implementation

ation

7

# The NIDIS U.S. Drought Portal

([www.drought.gov](http://www.drought.gov))

**NIDIS** National Integrated Drought Information System  
**U.S. Drought Portal**  
[www.drought.gov](http://www.drought.gov)

HOME WHAT IS NIDIS? CURRENT DROUGHT FORECASTING IMPACTS RECOVERY REPORTS

Recovery

Area Drought Information

Select State... >> Go

Select Region... >> Go

Maps & Tools

- Map Viewer - **updated!**
- GIS Resources
- Geodata Portal
- Drought Monitor Graphics
- CRN Soil Data - **new!**

Events & Announcements

- 2011 US Drought Monitor Forum April 13-14
- California Preplanning Meeting - Feb 17, 2011
- Southeast NIDIS Pilot Full Basin Meeting and Southeast Climate Outlook Forum - November 18-19, 2010
- 2011 UN Drought Risk Assessment Workshop - Sept 27-29, 2010

View Archive | Portal Release Notes

Drought In The News

- Major drought likely to hit 2011 Kansas wheat - [www.commoditiesonline.com](http://www.commoditiesonline.com)

Featured Products

Where are Drought Conditions Now? How is the Drought Affecting Me? Will the Drought Continue?

**U.S. Drought Monitor** January 18, 2011  
Valid 7 a.m. EST

Intensity:  
D0 Abnormally Dry  
D1 Drought - Moderate  
D2 Drought - Severe  
D3 Drought - Extreme  
D4 Drought - Exceptional

Drought Impact Types:  
A = Agricultural (crops, pastures, grasslands)  
H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Released Thursday, January 20, 2011  
http://drought.unl.edu/dm  
Author: Brian Fuchs, National Drought Mitigation Center

NIDIS Feature

National Integrated Drought Information System  
NIDIS  
A Pathway for National Resilience

view newsletter >>

Drought Information Statements

Map showing drought information statements across the United States.

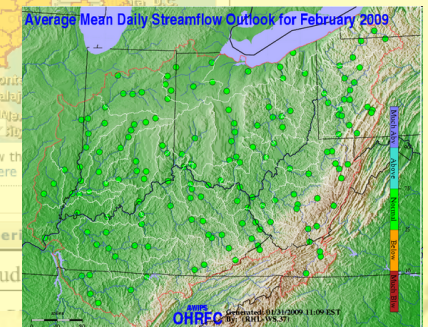
## Key Clearinghouse Functions:

Credible, Accessible, Timely Information on

- Where are drought conditions now?
- Does this event look like other events?
- How is the drought affecting me?
- Will the drought continue?
- Where can I go for help?

## Portlet example: NWS River Forecast Center

Ohio River  
Water Resources  
Outlook-  
Ecosystem recovery





## **National Level**

### **NIDIS Knowledge Assessment Workshops (examples)**

- **Remote Sensing Contributions to Drought Monitoring, February, 2008, Boulder-** NOAA, USGS, NASA, USDA, universities, state climatologists, state-local drought officials
- **National Status of Drought Early Warning Systems, June 2008, Kansas City-**NOAA, USGS, USAID, USDA, USACE, NASA, tribes, universities, state government, water managers
- **Drought, Climate change and Early Warning on Western Tribal Lands June 09-** Rio Grande, Colorado, Columbia Missouri Basin tribes

# **The prototyping phase of regional drought early warning information systems:**

Information-integration, diffusion, use, evaluation, transferable

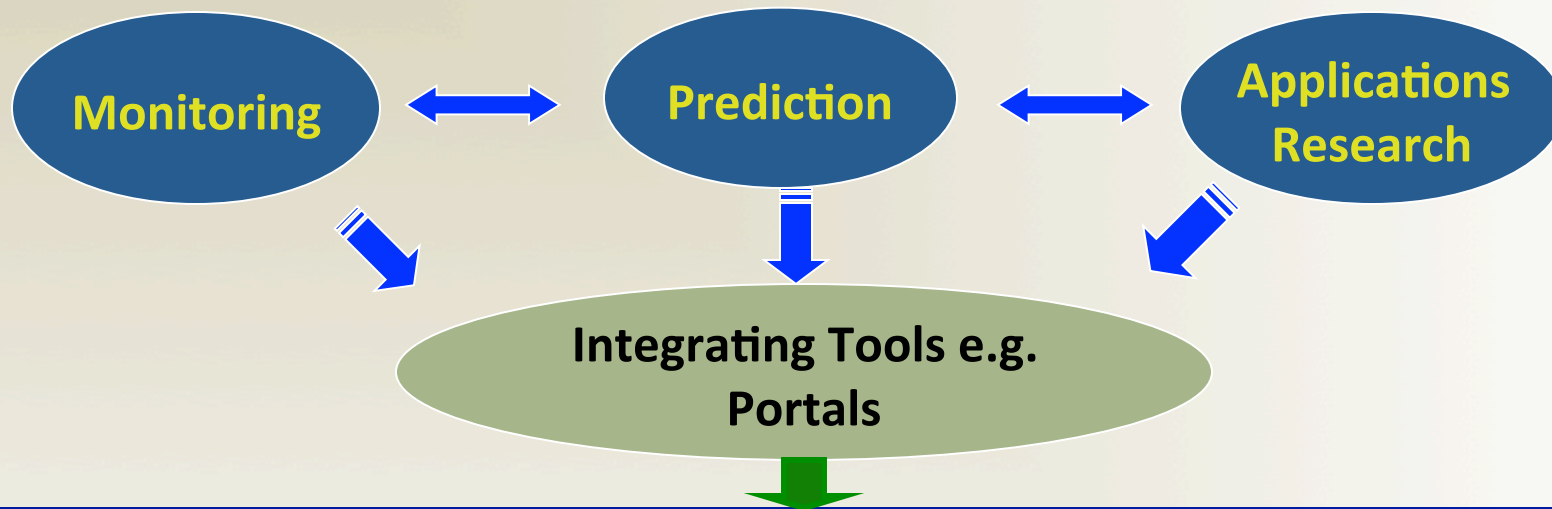
## **Allows for:**

- Existing barriers to cross-agency collaboration to be addressed
- Innovations and new information to be introduced and tested, and
- The benefits of participation in design, implementation and maintenance to be clarified
- Mature prototypes becomes the implemented regional system and its lessons are likely to be successfully transferred within or to other regions



# REGIONAL DROUGHT INFORMATION MANAGEMENT MODEL

Coordinate existing federal, state, and local drought-related data and decision support activities (e.g., within watersheds and states)



Identifying and transferring indicators, decision support tools and innovative strategies for drought risk assessment and adaptation measures

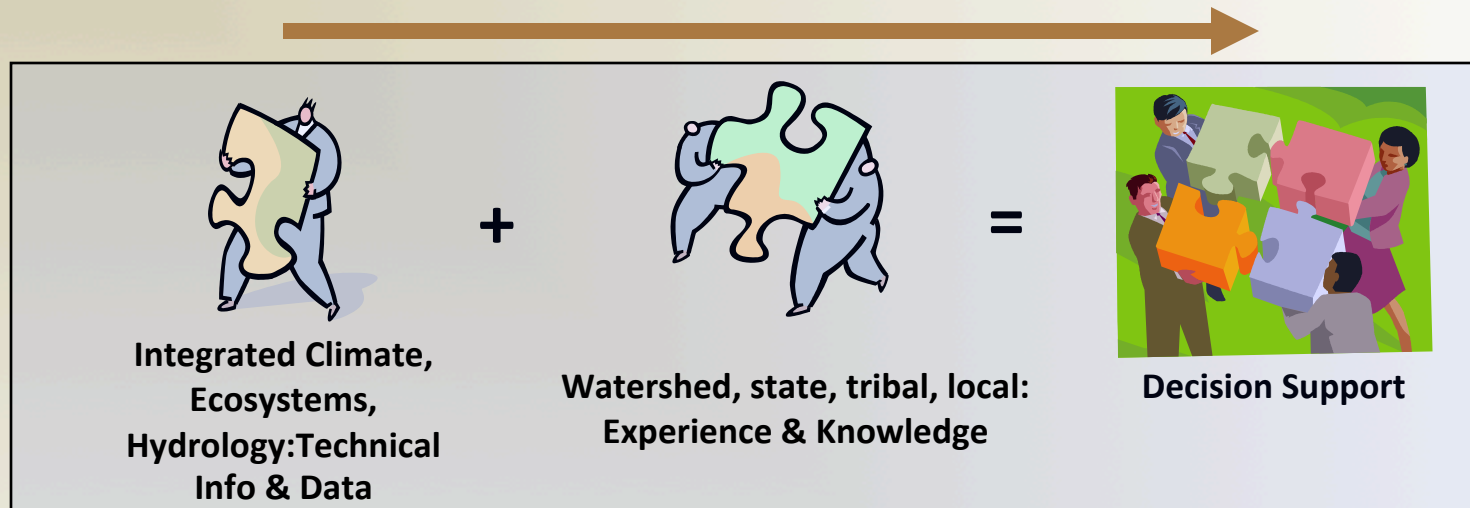
**Proactive  
Planning**

**Impact  
Mitigation**

**Improved  
Adaptation**

# Drought and Water Resources: Beyond The Impacts Report

Engaging communities, resource managers, science experts as climate changes



**Drought information needs and usability:**  
Entry points for proactive Planning-triggers and indicators



**Enabling resilience:**  
Best available drought risk & water supply information to inform infrastructure development and ongoing adaptation



# NIDIS Early Warning Information Systems Pilots

**Highlighted**-first round of prototypes;



## **Year 1: Scoping the Drought Early Warning Information System**

- **Gap analyses: What information exists and how is it being coordinated and used?**
- **Characterize and communicate risks across timescales-with existing information for 2-3 critical issues**

- Develop subteams to assess (1) Monitoring and forecasting; (2) Impact indicators and triggers (3) Preparedness and education:
- Assemble drought-sensitive planning indicators and management triggers database; Assess present drought information coordination partnerships and processes
- Identify Federal and state-level partnerships, decision support tools and actions needed (to improve information development, coordination and flow for preparedness and risk reduction)
- Develop an operational plan for designing and implementing an EWS process

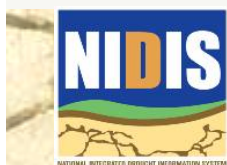
## **Year 2. Implementation of the Drought Early Warning System (seasonal, multi-year, longer term trends):**

- **Develop drought sub-portals**
- **Embed information into preparedness and adaptation plans**
- **Establish network for ongoing briefings on impacts and projections across climate timescales**

- Initiate development region or basin specific Drought Information Monitor and Portal
- Develop decision support tools for demand projections and revise triggering criteria
- Prototyping: Given better data and information coordination would responses have been improved for past events? Assess (1) value of improved information using past conditions, (2) responses for projections/ scenarios (decadal, climate change), (3) feedback on priorities (e.g. data gaps) to Executive Council.
- Feedback into regional Drought Monitor and Portal. Early Warning System maintenance (Fed-state-tribal) and transfer to other sub-basins



# So what might a NIDIS Pilot in California Look Like?





# Regionally tailored U.S. Drought Portal ([www.drought.gov](http://www.drought.gov))

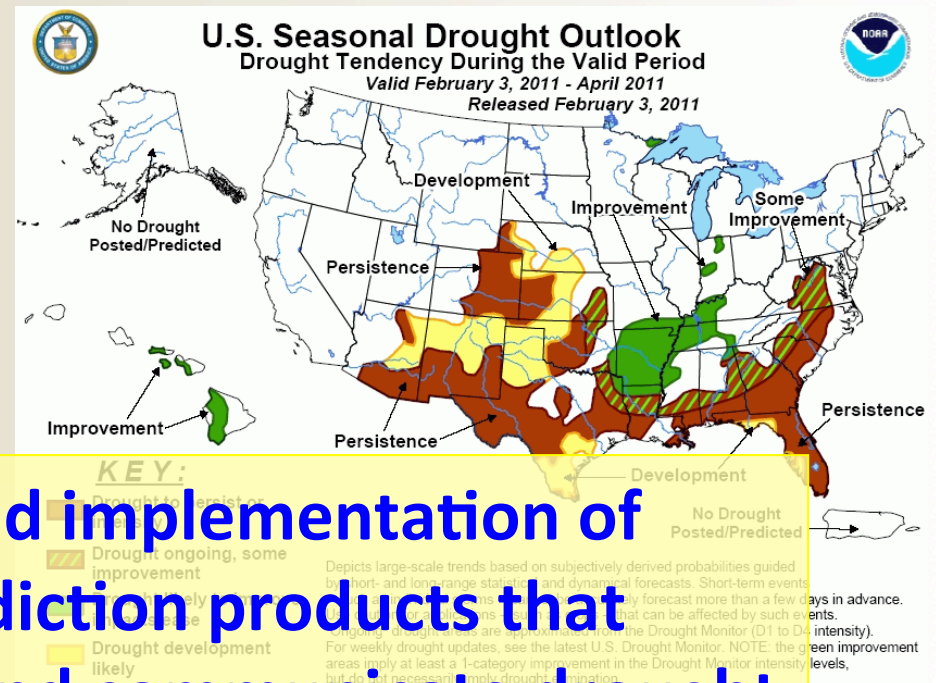
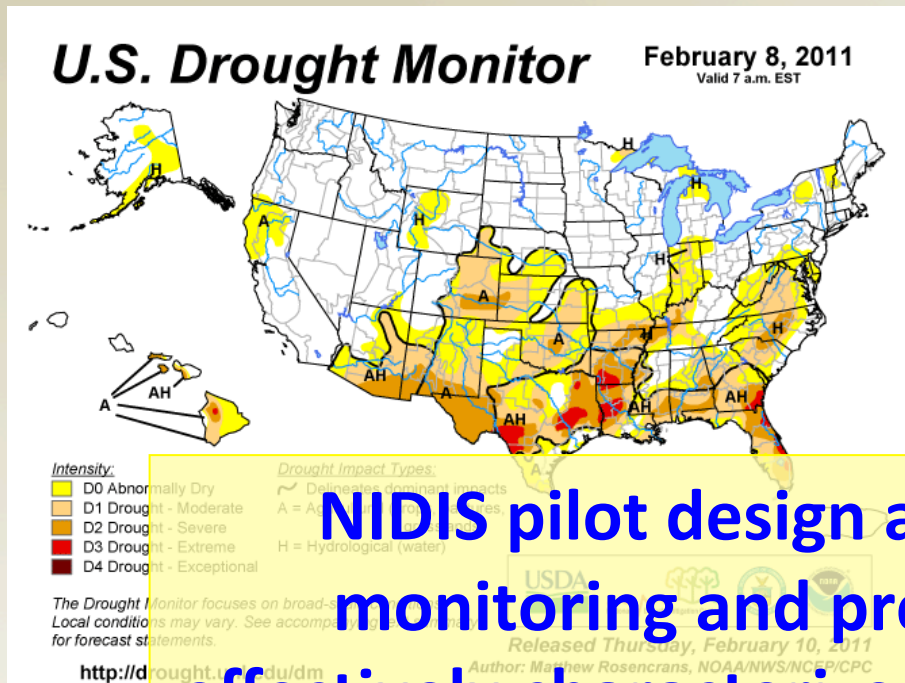
The screenshot displays the NIDIS U.S. Drought Portal website. At the top, the NIDIS logo is on the left, and the text "National Integrated Drought Information System" and "U.S. Drought Portal" are in the center, with the URL "www.drought.gov" below. A navigation bar contains links: HOME, WHAT IS NIDIS?, CURRENT DROUGHT, FORECASTING, IMPACTS, PLANNING, EDUCATION, RESEARCH, RECOVERY, and REPORTS. On the right, there is a "Contact Us" link and a search bar.

The main content area is divided into several sections:

- Area Drought Information:** Includes dropdown menus for "Select State..." and "Select Region..." with "Go" buttons.
- Maps & Tools:** A list of links: "Map Viewer - updated!", "GIS Resources", "Geodata Portal", "Drought Monitor Graphics", and "CRN Soil Data - new!".
- Events & Announcements:** A list of upcoming events, including a "Workshop on Drought Monitoring & Early Warning - May 10th, 2011", "NHWC Training Conference and Exposition - May 9-12, 2011", "U.S. Drought Monitor Forum - April 13-14, 2011", "US Drought Portal Users Conference - April 15th, 2011", "California Preplanning Meeting - Feb 17, 2011", and "Southeast NIDIS Pilot Full Basin Meeting and Southeast Climate".
- Featured Products:** Three links: "Where are Drought Conditions Now?", "How is the Drought Affecting Me?", and "Will the Drought Continue?". Below these is a map of the United States with a color-coded legend for drought impacts: "No reported impacts" (white), "1-60 reported impacts" (light yellow), "61-120 reported impacts" (yellow), "121-180 reported impacts" (orange), "181-240 reported impacts" (red), and "> 240 reported impacts" (dark red). The National Drought Mitigation Center logo is also present.
- NIDIS Feature:** A section titled "National Integrated Drought Information System" with a welcome message and a link to "Apalachicola-Chatahoochee-Flint River Basin Regional Drought Early Warning Information System".
- Regional Drought Early Warning Systems (DEWS):** A map showing the Pacific Northwest region, including Washington, Oregon, and Idaho, with labels for "Edmonton", "Vancouver", and "Seattle".



# Regionally Tailored Drought Monitor and Outlook



**NIDIS pilot design and implementation of monitoring and prediction products that effectively characterize and communicate drought information in the well plumbed state of California**

# So what might a NIDIS Pilot in California focus on?

*Let the brainstorming begin*

Public Awareness  
And Education

Engaging  
Preparedness  
Communities

Integrated  
Monitoring and  
Forecasting

Interdisciplinary  
Research and  
Applications

Regional  
Drought Portlet

*Include components of an early warning information system  
Learn from successes of ongoing NIDIS pilots*







May 9-12, 2011

Hilton San Diego at Mission Bay

San Diego, California

Visit [www.hydrologicwarning.org](http://www.hydrologicwarning.org) for more information and registration



### **Workshop 1: Drought Monitoring and Early Warning – Tuesday May 10, 2011**

The goals of the Drought workshop are twofold. Our first objective is to confer with emergency managers, decision makers, and agency and organizational representatives on drought management tools, resources, and current projects. The workshop will highlight existing drought management tools housed at the National Drought Mitigation Center (NDMC) ([drought.unl.edu](http://drought.unl.edu)) and will provide an opportunity for workshop participants to contribute input to products currently in development.

